

characters of the skull and dentition. *Mus tasmaniensis*, Krefft *, "a new species of land-rat discovered by Mr. George Masters on the banks of the Ouse river," is no doubt one of these four; but even if the type is found to be the same as one of the species here described, Mr. Krefft's name for it cannot stand, as no description whatever has ever been published of it.

XLV.—*Remarkable Forms of Cellepora and Palythoa from the Senegambian Coast.* By H. J. CARTER, F.R.S. &c.

[Plate XVI.]

Cellepora senegambiensis, n. sp. (Pl. XVI. fig. 1, a-v.)

Zoarium asteroid, many-armed, about $2\frac{1}{3}$ inches in diameter, with a large hole at the base of the arms (Pl. XVI. fig. 1). Composition calcareous. Structure hard, firm. Colour white, spotted with greenish brown. Consisting of ten cylindrical arms, variable in form, size, length, and position, sometimes bifurcated. Built upon a depressed, turbinoid, littorine shell, over the whole of which—with the exception of the aperture, which is subcircular, about 1-3rd of an inch in its longest diameter, and still remains open (fig. 1, a)—the polyzoon has grown. Arms solid, composed throughout of an aggregate of white or colourless cells (zoeccia), heaped together irregularly in the form mentioned, mixed with others of a greenish-brown colour, which, grouped together, retain a radiating (? spiral) arrangement from the axis (which is also composed of the same coloured cells) to the surface (fig. 1, b'), where they terminate in subverruciform gentle elevations (fig. 1, b b), varying in size from 1 to 2-12ths of an inch in diameter, and disposed more or less quincuncially about the same distance apart, but chiefly collected at the extremity of the arm. Zoeccium conical and erect, or oval and recumbent (fig. 1, c c c c); orifice circular, constricted unequally, the smallest part (sinus) posteriorly (fig. 1, d d d and m), margined by a smooth, round, even rim, bordered in front by two or more tubercles (fig. 1, l), and behind by a prominent conical rostrum (fig. 1, h), against which the sinus rests more or less perpendicularly (fig. 1, i); furnished with a chitinous operculum. Surface of the cell covered with a branched anastomo-

* Fauna of Tasmania, p. 3 (1868).

sing structure in relief, radiating to the circumference (fig. 1, *u*) from the summit of the rostrum, which is thus grooved (fig. 1, *gg*), forming a reticulation whose interstices are respectively perforated by a hole furnished with a circular membranous diaphragm (fig. 1, *v*); interstice irregular in size and form, surrounded by three or more tubercles (fig. 1, *s*). Oœcium globular, smooth, overhanging the orifice, which is thus more or less perpendicularized by it (fig. 1, *f*). Avicularia lanceolate, numerous, variable in size, situated in the angular intervals left between the cells (fig. 1, *eeeeee*). Zoœcium in some parts covered with a minute calcareous granulation (? pellicle), especially over the rostrum, not even excluding the chitinous operculum of the orifice (fig. 1, *t*). Size of specimen $2\frac{1}{2}$ inches in diameter from tip to tip of the longest arms; largest arm 1 inch long by half an inch in diameter at the base.

Hab. Marine.

Loc. Coast of Senegambia, West Africa.

Obs. The most striking characters of this species are its asteroid form and spotted surface. Perhaps the colour of the dark parts may arise from an excess of chitine, as it is generally transparent and diffuse. The zoœcia composing them do not appear to differ from the rest, excepting in their prominence and more recumbent position, which, affording the best view of the surface of the cell generally, has been taken for the typical illustration (fig. 1, *c*); while those bearing the oœcium (fig. 1, *f*) appear to be confined to the colourless and more erect forms, which, situated in the depressions between the verruciform or coloured portions, are thus most protected. There is, of course, a great variety in the minor detail of the cell, as might be expected in an acervuline mass heaped together irregularly; but the main characters are those above given. Probably the cavity of the shell on which the Polyzoön has grown was once tenanted by a hermit crab (*Pagurus*), which, from the inconvenience of the weight accumulating around him, may have left it to the mercy of the waves, whereby his commensalist perished, and the specimen got to the shore, where it was picked up for preservation. Conjecturing what must have been the size of the *Pagurus*, compared with that of the *shell*, it does not seem unlikely that the burden on the former, or its own increase in size, or both combined, may have led to the desertion. Certain it is, however, that the aperture of the shell would not have been preserved if a *Pagurus* had not taken possession of its cavity, since there is no shell-substance left in contact with the zoarium for some distance inward from the orifice, although

sufficient remains in the interior, as determined by the section of another but inferior specimen, registered 22. 8. 76. 5, to show what the form was.

Palythoa senegambiensis, n. sp.
(Pl. XVI. fig. 2, *a-c*, and fig. 3, *a, b*.)

Polypary consisting of four or more stout clumsy arms, bent downwards asteroidly from an arched summit, under which and on one side is an aperture representing that of the shell on which the *Palythoa* had grown (Pl. XVI. figs. 2 and 3). Composition siliceo-arenaceous. Structure subfirm, gritty. Colour light brown. Arm irregular in shape, about 7-12ths of an inch thick in its most cylindrical part, simply rounded at the end (fig. 2, *b*), or expanded and flattened (fig. 3, *b*). Aperture elliptical, about 8-12ths by 3-12ths of an inch in its greatest diameters (fig. 3, *a*). Surface uniformly covered with a great number of papilliform eminences (fig. 2, *a*), more or less in juxtaposition, slightly raised above the common level of the polypary, circular, and about 3-24ths of an inch in diameter, with a 12-plicated aperture in the centre more or less open, leading to a cavity beneath about the same in depth sunk into the polypary, and presenting the remains of at least twelve mesenteric lamellæ; thus the cavity bears the proportion of 3 to 14-24ths of an inch when compared with the thickness of the cylindrical part of the arm, which otherwise is composed of pure sand (fig. 2, *c*). Polyp too much desiccated for description. Size of specimen about $2\frac{3}{4}$ inches from tip to tip of the longest arms; height of the summit of the arch outside about $2\frac{1}{2}$ inches, inside about $\frac{3}{4}$ inch.

Hab. Marine.

Loc. Coast of Senegambia, West Africa.

Obs. Although the branched form of this polypary &c. much resembles that of an *Alcyonium*, yet the arenaceous composition and general appearance is more like that of a *Palythoa*, to which "subfamily" it must be relegated on account of the greater number of mesenteric lamellæ, which, according to Milne-Edwards, "reste toujours à huit chez les Alcyonnaires" ('Zoophytes: Coralliaires,' vol. i. p. 221). From the polyps being only sunk into the polypary so much as to be a little above the general surface, or rather, perhaps, from the latter having risen to this height, it evidently belongs to Milne-Edwards's division "A A A" (*op. cit.* vol. i. p. 305), although a *branched* form is not mentioned. The expanded and flattened ends of the arms of the illustrated specimen (fig. 3, *b*), for there are two very much alike, seem to indicate

that they rested on the ground, while in the other specimen they are all simply rounded, like that of fig. 2, *b*. The same remarks apply to the shell on which the *Palythoa* had built its structure as to that of *Cellepora senegambiensis*, excepting that it appears to have been still more depressed, and, from the smooth shining surface of the portion remaining in the interior, as exposed by a section of the unillustrated specimen, registered 12. 3. 68. 4, together with the elliptical aperture, to have been one of the Naticidæ.

General Observations.

The specimens from which the above descriptions have been taken belong to the Liverpool "Free Public Museum;" and there are two of each, so that I have had one of each to sectionize for the internal structure, while the best of each has been retained entire for illustration, which, together with the sections, will henceforth be returned to the museum for reference. The most remarkable part about them in a physiognomical point of view is that organisms so widely separated in the animal scale should, in the same locality, viz. the Senegambian coast, present the same peculiarities of growth, which, so far, appears not to have been noticed in any other part of the world. There are two specimens of *Cellepora senegambiensis* in the British Museum; and I think that I have seen it figured in some old work, but cannot remember where.

EXPLANATION OF PLATE XVI.

Fig. 1. Cellepora senegambiensis, n. sp. Zoarium, natural size. *a*, hole representing the aperture of the shell on which the zoarium has been built; *b b*, coloured portions on the surface; *b'*, section of an arm, showing the same in the interior; *c c c c*, group of cells or zoecia, with their accompaniments, all magnified on the scale of 1-48th to 1-1800th inch; *d d d d*, orifice; *e e e e e*, avicularia; *f*, oecium; *g g*, rostrum; *h*, front view of rostrum &c., more magnified, viz. on the scale of 1-48th to 1-6000th inch; *i*, sinus of orifice; *k*, orifice; *l*, front part of cell or zoecium; *m*, orifice and sinus closed by operculum, and *n*, avicularium, on the same scale; *o*, diagram (on the same scale) to show calcareous granulations in *p*, ?-pellicle, on some parts of the zoarium; *q*, surface without the granular growth; *r*, circular diaphragmatic hole in the interstice; *s*, tubercles on the border of the same; *t*, operculum covered with the granular growth; *u*, branched structure in relief on the zoecium; *v*, diaphragmatic hole in the interstice.

Fig. 2. Palythoa senegambiensis, n. sp.: lateral view, with part of upper surface (nat. size). *a*, polyp-cells; *b*, rounded end of arm; *c*, section of the cylindrical part of the arm, to show position and relative size of polyp-cells.

Fig. 3. Palythoa senegambiensis, n. sp.: under surface (nat. size). *a*, orifice representing the aperture of the shell on which the polypary has been built: *b*, flattened end of arm.

XLVI.—*Descriptions of new Genera and Species of Longicorn Coleoptera (Lamiidæ) from Madagascar.* By CHARLES O. WATERHOUSE.

THE species here described were received from the Rev. W. Deans Cowan, and belong to the same series as the other Longicornia recently described by me in this journal (*antè*, p. 326). They were collected in the neighbourhood of Fianarantsoa.

Lamiidæ.

LASIOCERCIS, n. gen.

General build of *Dichostates*. Antennæ shorter than the body; the first joint elongate, gradually but not much enlarged towards the apex; the third joint scarcely as long as the first, the fourth about the same length as the first, the following joints much shorter. Thorax transverse, with a conical tubercle in the middle of the side, and with two rather acute tubercles on the disk. Elytra oblong, rather depressed at the suture, shoulders nearly rectangular; each elytron with a strongly marked, slightly oblique elevation near the scutellum. Legs stout, the tibiæ with a tuft of hair on the outer edge at the apex. Intercoxal process of the prosternum very broad, arched. Mesosternum rather broader, sloping down.

This genus should be placed next to *Ranova*, with which it agrees in the form of the sterna, but differs in the elongate basal joint of the antennæ, in the curious prominence at the base of the elytra, &c.

Lasiocercis fasciata, n. sp.

Nigra, tomento fere albo dense tecta; antennis, fronte, thoracis disco, elytrorum fascia regioneque scutellari, tibiarum apice tarsisque nigris.

Long. 6 lin.

The bases of the third and following joints of the antennæ are whitish; the joints are beset with few but long black hairs. The thorax has a small round black spot at each anterior angle; the discoidal area (including the dorsal tubercles) is black, with a slight mixture of brown posteriorly; this mixture of black and brown also occupies the space between the basal elevations of the elytra. Near the apex of the elytra there is a broad black fascia, having its basal margin angulated and margined with purer white; there is a small black spot about the middle of the side, and immediately below this, on the disk of the elytron, is a very small raised brown dot,

whence a slight costa commences and extends into the black fascia. The pro- and mesosterna and the abdomen are nearly black.

DIADELIA, n. gen.

Antennæ longer than the whole insect, slender; the basal joint elongate, nearly cylindrical, as long as the length of the thorax; the second and third joints together as long as the first, the fourth joint one third longer than the third, the following joints rather shorter and subequal. Antennal tubercles slightly raised and widely separated. Thorax transverse, angularly enlarged at the middle, and furnished with a strong, not very acute, tubercle; there is a slight swelling immediately behind the anterior angles; and on the disk there are two moderately distinct obtuse tubercles. Scutellum of moderate size. Elytra at the base nearly twice as broad as the base of the thorax, and four and a quarter times the length, gradually but considerably narrowed posteriorly, distinctly flattened at the suture; the lateral margin incrassate and very clearly defined; the apex of each elytron obliquely truncate. Intercoxal process of the prosternum rather narrower and arched. The mesosternum a trifle broader, almost conically produced anteriorly, perpendicular in front. Apical segment of the abdomen flat, trapezoidal, gently emarginate at the apex.

The female has the antennæ only a little longer than the whole insect; in the male they are much longer.

This genus should be placed next to *Amblysthis*, Th., from which the form of the mesosternum will alone be sufficient to distinguish it.

Diadelia biplagiata, n. sp.

Fusca, pube fusca griseaque dense vestita et variegata; elytris pube grisea vestitis, plaga communi basali triangulari et altera laterali fuscis.

Long. $7\frac{1}{4}$ lin.

The mixture of grey and brown pubescence on the underside of the insect and on the legs is about equal; but on the abdomen the grey prevails largely. The grey colour on the head and thorax is less conspicuous; and the antennæ are almost entirely brown. The elytra are pale greyish, with the base brown; and on each elytron, about the middle of the side, is a large brown patch, somewhat trapezoidal in form, but rounded towards the suture; halfway between this and the apex there is a slightly oblique dusky line; there is a line of pale brown dots along the suture; and a little way removed from the suture another similar line may be traced,

but the dots are smaller; the basal region is strongly but not very closely punctured, and there are also numerous minute black punctures traceable over the surface. The antennæ are sparingly beset below with rather long hairs. The surface of the thorax is uneven; on the disk, rather in front of the middle, are two obtuse slightly raised tubercles; and behind these a third one, much less distinct, may be traced in the middle.

The above description is taken from the male. The female example is rather more uniform grey; the brown at the base of the elytra is scarcely visible; and the dusky line near the apex is wanting.

Lepturidæ.

DYSMATHOSOMA, n. gen.

Head as broad as long, rather flattened; muzzle extremely short; eyes rather prominent laterally, coarsely granular, slightly emarginate in front, not supported posteriorly by the cheeks; antennal tubercles slightly raised, widely separated. Antennæ robust, reaching rather beyond the middle of the elytra, situated considerably in front of the eye; the basal joint moderately elongate, thick, slightly bent, much narrowed towards the base; the second joint small and transverse; the third and fourth subequal, nearly as long as the first, but more slender; the fifth to ninth joints subequal, all distinctly longer than the fourth*. Thorax scarcely broader than long, slightly constricted immediately behind the anterior angles, with an obtuse not very prominent tubercle at the side, rather in front of the middle; behind this the sides are parallel; disk with two oblong-ovate swellings rather before the middle, and smaller round ones at the base. Scutellum moderately small, triangular. Elytra at the base twice the width of the front of the thorax, gradually but not much narrowed posteriorly, flattened on the back, rounded at the apex. Intercoxal process of the prosternum very narrow, so that the coxæ are nearly contiguous posteriorly, arched. Mesosternum not very wide, sloping in front. Metathoracic parapleura moderately broad at the base, gradually acuminate posteriorly. Abdomen with the apical segment rather flat, triangularly notched at the apex. Legs very robust; the femora very thick, somewhat narrower towards the base, rather suddenly emarginate below at the apex. Tibiæ somewhat enlarged at the apex; the middle pair with two strong spurs at the apex; in the posterior pair one of the inner

* The tenth and eleventh joints are wanting in the specimen described.

angles is produced into a spur-like process; the other inner angle is furnished with an acute spur.

I think this genus must undoubtedly be placed among the Lepturidæ, although it is quite unlike any thing in that family known to me. The structure of the antennæ is nearest to that in *Rhamnusium*, but the joints are all rather longer; the structure of the sterna and abdomen also agree well with that genus, except that the prosternal process is more sloping posteriorly. The eyes, however, are very finely granular, and are not supported posteriorly by the cheeks, in which characters it agrees with some other Madagascar Lepturidæ; and, on the whole, it appears to be best placed near *Enthymius*, Waterh.

Dysmathosoma picipes, n. sp.

Nigrum, parum nitidum, brevissime griseo-pilosum; antennis pedibusque rufo-piceis; elytris piceis sublævibus, vitta impressa discoidali et altera apicali griseo-pubescentibus.

Long. $10\frac{1}{2}$ lin.

The head is closely and very finely punctured. The thorax is smooth, except along the front margin and in the space between the dorsal swellings, where it is closely and very finely punctured. The elytra are smooth and shining, with a few punctures scattered over the surface; there is a slight impression at the base within the shoulder; on the disk near the suture is an elongate narrow impression, and at the apex there is another similar impression, but shallower. The surface may perhaps be at times entirely clothed with greyish-white pubescence; but in the specimen described it is only in the impressions. The metasternum has a deep impressed median line; it is, as well as the four basal segments of the abdomen, sparingly punctured; the apical segment is more thickly and more finely punctured.

XLVII.—*Description of a new Species of Mantidæ.*

By FRANCIS P. PASCOE.

Callimantis eximia.

C. capite prothoracequo sordide luteis, tegminibus fulvo-viridibus; alis antice miniatis, postice purpureo-fuscis, albo-venosis, extus pellucido-limbatis. Long. 10 lin.

Hab. Pará.

Head and prothorax dull fulvous, the latter about half as long again as the breadth of the head; antennæ very slender,